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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/880,573

DATE: 12/26/2001

TIME: 11:45:18

Input Set : N:\Crif3\RULE60\09880573.txt

Output Set: N:\CRF3\12262001\I880573.raw

SEQUENCE LISTING

3 (1) GENERAL INFORMATION:

5 (i) APPLICANT: Suzuki, Shintaro

7 (ii) TITLE OF INVENTION: Protocadherin Materials and Methods

9 (iii) NUMBER OF SEQUENCES: 115

11 (iv) CORRESPONDENCE ADDRESS:

12 (A) ADDRESSEE: Marshall, O'Toole, Gerstein, Murray, &

13 (B) STREET: 233 South Wacker, 6300 Sears Tower

14 (C) CITY: Chicago

15 (D) STATE: Illinois

16 (E) COUNTRY: USA

17 (F) ZIP: 60606

19 (v) COMPUTER READABLE FORM:

20 (A) MEDIUM TYPE: Floppy disk

21 (B) COMPUTER: IBM PC compatible

22 (C) OPERATING SYSTEM: PC-DOS/MS-DOS

23 (D) SOFTWARE: Patent In Release #1.0, Version #1.25

25 (vi) CURRENT APPLICATION DATA:

C--> 26 (A) APPLICATION NUMBER: US/09/880,573

C--> 27 (B) FILING DATE: 13-Jun-2001

28 (C) CLASSIFICATION:

30 (vii) PRIOR APPLICATION DATA:

31 (A) APPLICATION NUMBER: 09/099,639

32 (B) FILING DATE:

34 (viii) ATTORNEY/AGENT INFORMATION:

35 (A) NAME: Greta E. Noland

36 (B) REGISTRATION NUMBER: 35,302

37 (C) REFERENCE/DOCKET NUMBER: 27866/34703

39 (ix) TELECOMMUNICATION INFORMATION:

40 (A) TELEPHONE: 312/474-6300

41 (B) TELEFAX: 312/474-0448

42 (C) TELEX: 25-3856

45 (2) INFORMATION FOR SEQ ID NO: 1:

47 (i) SEQUENCE CHARACTERISTICS:

48 (A) LENGTH: 17 base pairs

49 (B) TYPE: nucleic acid

50 (C) STRANDEDNESS: single

51 (D) TOPOLOGY: linear

W--> 53 (ii) MOLECULE TYPE: DNA

65 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

67 AARSSNNTNG AYTRYGA

69 (2) INFORMATION FOR SEQ ID NO: 2:

71 (i) SEQUENCE CHARACTERISTICS:

72 (A) LENGTH: 17 base pairs

73 (B) TYPE: nucleic acid

74 (C) STRANDEDNESS: single

75 (D) TOPOLOGY: linear

ENTERED

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W--> 77      (ii) MOLECULE TYPE: DNA
79      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
81 TTRCTRTTTC GNGGNNN
83 (2) INFORMATION FOR SEQ ID NO: 3:
85      (i) SEQUENCE CHARACTERISTICS:
86          (A) LENGTH: 131 base pairs
87          (B) TYPE: nucleic acid
88          (C) STRANDEDNESS: single
89          (D) TOPOLOGY: linear
91      (ii) MOLECULE TYPE: cDNA
95      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
97 AAGGGAGTGG ACTTTGAGGA GCAGCCTGAG CTTAGTCTCA TCCTCACGGC TTTGGATGGA
99 GGGACTCCAT CCAGGTCTGG GACTGCATTG GTTCAAGTGG AAGTCATAGA TGCCAATGAC
101 AACGCACCGT A
103 (2) INFORMATION FOR SEQ ID NO: 4:
105      (i) SEQUENCE CHARACTERISTICS:
106          (A) LENGTH: 43 amino acids
107          (B) TYPE: amino acid
108          (C) STRANDEDNESS: single
109          (D) TOPOLOGY: linear
111      (ii) MOLECULE TYPE: protein
115      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
117 Lys Gly Val Asp Phe Glu Glu Gln Pro Glu Leu Ser Leu Ile Leu Thr
118 1 5 10 15
120 Ala Leu Asp Gly Gly Thr Pro Ser Arg Ser Gly Thr Ala Leu Val Gln
121 20 25 30
123 Val Glu Val Ile Asp Ala Asn Asp Asn Ala Pro
124 35 40
127 (2) INFORMATION FOR SEQ ID NO: 5:
129      (i) SEQUENCE CHARACTERISTICS:
130          (A) LENGTH: 131 base pairs
131          (B) TYPE: nucleic acid
132          (C) STRANDEDNESS: single
133          (D) TOPOLOGY: linear
135      (ii) MOLECULE TYPE: cDNA
139      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
141 AAACGCATGG ATTTGAGGA GTCTTCCTCC TACCAGATCT ATGTGCAAGC TACTGACCGG
143 GGACCAGTAC CCATGGCGGG TCATTGCAAG GTGTTGGTGG ACATTATAGA TGTGAACGAC
145 AACGCACCTA A
147 (2) INFORMATION FOR SEQ ID NO: 6:
149      (i) SEQUENCE CHARACTERISTICS:
150          (A) LENGTH: 43 amino acids
151          (B) TYPE: amino acid
152          (C) STRANDEDNESS: single
153          (D) TOPOLOGY: linear
155      (ii) MOLECULE TYPE: protein
159      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:
161 Lys Ala Met Asp Phe Glu Glu Ser Ser Ser Tyr Gln Ile Tyr Val Gln
162 1 5 10 15

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164      Ala Thr Asp Arg Gly Pro Val Pro Met Ala Gly His Cys Lys Val Leu
165              20              25              30
167      Val Asp Ile Ile Asp Val Asn Asp Asn Ala Pro
168              35              40
170 (2) INFORMATION FOR SEQ ID NO: 7:
172      (i) SEQUENCE CHARACTERISTICS:
173          (A) LENGTH: 131 base pairs
174          (B) TYPE: nucleic acid
175          (C) STRANDEDNESS: single
176          (D) TOPOLOGY: linear
178      (ii) MOLECULE TYPE: cDNA
182      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
184 AAGCGACTGG ACTTTGAGAC CCTGCAGACC TTCGAGTTCA GCGTGGGTGC CACAGACCAT      60
186 GGCTCCCCCT CGCTCCGCAG TCAGGCTCTG GTGCGCGTGG TGGTGCTGGA CCACAATGAC      120
188 AATGCCCCCA A      131
190 (2) INFORMATION FOR SEQ ID NO: 8:
192      (i) SEQUENCE CHARACTERISTICS:
193          (A) LENGTH: 43 amino acids
194          (B) TYPE: amino acid
195          (C) STRANDEDNESS: single
196          (D) TOPOLOGY: linear
198      (ii) MOLECULE TYPE: protein
202      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
204 Lys Arg Leu Asp Phe Glu Thr Leu Gln Thr Phe Glu Phe Ser Val Gly
205 1              5              10              15
207 Ala Thr Asp His Gly Ser Pro Ser Leu Arg Ser Gln Ala Leu Val Arg
208              20              25              30
210 Val Val Val Leu Asp His Asn Asp Asn Ala Pro
211              35              40
213 (2) INFORMATION FOR SEQ ID NO: 9:
215      (i) SEQUENCE CHARACTERISTICS:
216          (A) LENGTH: 131 base pairs
217          (B) TYPE: nucleic acid
218          (C) STRANDEDNESS: single
219          (D) TOPOLOGY: linear
221      (ii) MOLECULE TYPE: cDNA
225      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
227 AAGGGCCTGG ATTACGAGGC ACTGCAGTCC TTCGAGTTCT ACGTGGGCGC TACAGATGGA      60
229 GGCTCACCCG CGCTCAGCAG CCAGACTCTG GTGCGGATGG TGGTGCTGGA TGACAACGAC      120
231 AACGCCCCCTA A      131
233 (2) INFORMATION FOR SEQ ID NO: 10:
235      (i) SEQUENCE CHARACTERISTICS:
236          (A) LENGTH: 43 amino acids
237          (B) TYPE: amino acid
238          (C) STRANDEDNESS: single
239          (D) TOPOLOGY: linear
241      (ii) MOLECULE TYPE: protein
245      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
247 Lys Gly Leu Asp Tyr Glu Ala Leu Gln Ser Phe Glu Phe Tyr Val Gly

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```

248      1          5          10          15
252    Ala Thr Asp Gly Gly Ser Pro Ala Leu Ser Ser Gln Thr Leu Val Arg
253                20          25          30
255    Met Val Val Leu Asp Asp Asn Asp Asn Ala Pro
256          35          40
258 (2) INFORMATION FOR SEQ ID NO: 11:
260      (i) SEQUENCE CHARACTERISTICS:
261          (A) LENGTH: 131 base pairs
262          (B) TYPE: nucleic acid
263          (C) STRANDEDNESS: single
264          (D) TOPOLOGY: linear
266      (ii) MOLECULE TYPE: cDNA
270      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
272 AAGGCGTTTG ATTTTGAGGA TCAGAGAGAG TTCCAGCTAA CCGCTCATAT AAACGACGGA      60
274 GGTACCCCGG TTTTGGCCAC CAACATCAGC GTGAACATAT TTGTTACTGA CCGCAATGAC      120
276 AACGCCCCGC A      131
278 (2) INFORMATION FOR SEQ ID NO: 12:
280      (i) SEQUENCE CHARACTERISTICS:
281          (A) LENGTH: 43 amino acids
282          (B) TYPE: amino acid
283          (C) STRANDEDNESS: single
284          (D) TOPOLOGY: linear
286      (ii) MOLECULE TYPE: protein
290      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:
292 Lys Ala Phe Asp Phe Glu Asp Gln Arg Glu Phe Gln Leu Thr Ala His
293      1          5          10          15
295 Ile Asn Asp Gly Gly Thr Pro Val Leu Ala Thr Asn Ile Ser Val Asn
296          20          25          30
298 Ile Phe Val Thr Asp Arg Asn Asp Asn Ala Pro
299          35          40
301 (2) INFORMATION FOR SEQ ID NO: 13:
303      (i) SEQUENCE CHARACTERISTICS:
304          (A) LENGTH: 131 base pairs
305          (B) TYPE: nucleic acid
306          (C) STRANDEDNESS: single
307          (D) TOPOLOGY: linear
309      (ii) MOLECULE TYPE: cDNA
314      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:
316 AAGGCGGTGG ATTACGAAAT CACCAAGTCC TATGAGATAG ATGTTCAAGC CCAAGATCTG      60
318 GGTCCCAATT CTATTCTGTC TCATTGCAAA ATTATAATTA AGGTCGTGGA TGTCAACGAC      120
320 AACGCTCCCA A      131
322 (2) INFORMATION FOR SEQ ID NO: 14:
324      (i) SEQUENCE CHARACTERISTICS:
325          (A) LENGTH: 43 amino acids
326          (B) TYPE: amino acid
327          (C) STRANDEDNESS: single
328          (D) TOPOLOGY: linear
330      (ii) MOLECULE TYPE: protein
334      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

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DATE: 12/26/2001

PATENT APPLICATION: US/09/880,573

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Input Set : N:\Crf3\RULE60\09880573.txt

Output Set: N:\CRF3\12262001\I880573.raw

```

336   Lys Ala Val Asp Tyr Glu Ile Thr Lys Ser Tyr Glu Ile Asp Val Gln
337       1             5             10             15
339   Ala Gln Asp Leu Gly Pro Asn Ser Ile Pro Ala His Cys Lys Ile Ile
340       20             25             30
342   Ile Lys Val Val Asp Val Asn Asp Asn Ala Pro
343       35             40
345 (2) INFORMATION FOR SEQ ID NO: 15:
347   (i) SEQUENCE CHARACTERISTICS:
348       (A) LENGTH: 135 base pairs
349       (B) TYPE: nucleic acid
350       (C) STRANDEDNESS: single
351       (D) TOPOLOGY: linear
353   (ii) MOLECULE TYPE: cDNA
357   (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:
359 TATGACCATG ATTACGAGAC AACCAAAGAA TATACACTGC GGATCCGGGC CCAGGATGGT      60
361 GGCCGGACTC CACTTTCCAA CGTCTCCGGT CTAGTAACCG TGCAGGTCCT AGACATCAAC      120
363 GACAATGCCC CCCC      135
365 (2) INFORMATION FOR SEQ ID NO: 16:
367   (i) SEQUENCE CHARACTERISTICS:
368       (A) LENGTH: 44 amino acids
369       (B) TYPE: amino acid
370       (C) STRANDEDNESS: single
371       (D) TOPOLOGY: linear
373   (ii) MOLECULE TYPE: protein
377   (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:
379 Tyr Asp His Asp Tyr Glu Thr Thr Lys Glu Tyr Thr Leu Arg Ile Arg
380       1             5             10             15
382 Ala Gln Asp Gly Gly Arg Thr Pro Leu Ser Asn Val Ser Gly Leu Val
383       20             25             30
385 Thr Val Gln Val Leu Asp Ile Asn Asp Asn Ala Pro
386       35             40
388 (2) INFORMATION FOR SEQ ID NO: 17:
390   (i) SEQUENCE CHARACTERISTICS:
391       (A) LENGTH: 129 base pairs
392       (B) TYPE: nucleic acid
393       (C) STRANDEDNESS: single
394       (D) TOPOLOGY: linear
396   (ii) MOLECULE TYPE: cDNA
400   (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:
402 GGGGGGTCTGA TTACGAGGAG AACGGCATGT TAGAGATCGA CGTGCAGGCC AGAGACCTAG      60
404 GACCTAACCC AATTCCAGCC CATTGCAAGG TCACAGTCAA GCTCATCGAC CGCAATGATA      120
406 ACGCCCCCA      129
408 (2) INFORMATION FOR SEQ ID NO: 18:
410   (i) SEQUENCE CHARACTERISTICS:
411       (A) LENGTH: 43 amino acids
412       (B) TYPE: amino acid
413       (C) STRANDEDNESS: single
414       (D) TOPOLOGY: linear
416   (ii) MOLECULE TYPE: protein

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VERIFICATION SUMMARY

PATENT APPLICATION: US/09/880,573

DATE: 12/26/2001

TIME: 11:45:19

Input Set : N:\Crf3\RULE60\09880573.txt

Output Set: N:\CRF3\12262001\I880573.raw

L:26 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:27 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:53 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=1
L:77 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=2
L:1010 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=41
L:1016 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41
L:1027 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=42
L:1033 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42
L:1044 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=43
L:1050 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43
L:3475 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:100
L:3491 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:101